REMARKS

Claims 1-87 were examined on their merits. Claims 1-87 are all the claims currently pending in the present application. Reconsideration of the outstanding objections/rejections in the present application is also respectfully requested based on the following remarks.

Formal Matters

1. The drawings were objected to because of the informalities identified on page 2 of the Office Action. The separately submitted Request for Approval of Drawing Changes addresses these objections by adding character numbers to uniquely identify each destination device, destination device synchronization mechanism, and destination data buffer in Figure 1 and Figure 4. Accordingly, the Applicants respectfully request the Examiner to withdraw this objection.

2. Applicants are concurrently filing herewith a Request for a Three-Month Extension of Time, along with the requisite fee. In the event that a variance exists between the amount tendered and that required by the U.S. Patent and Trademark Office to enter and consider this Reply, or to prevent abandonment of the present application, please charge or credit such variance to the undersigned's Deposit Account No. 50-2613 (Order No. 45098.00014.UTL1.P1068).

Art Rejections

1. Claims 1-6, 10, 11, 14-16, 21-43, 46, 50-52, 57-60, 65, 67-72, 76, 80-83, 85, 86 and 87 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillett, Jr. et al. U.S. Patent No. 6,295,585 ("Gillett") and Wipfel et el. U.S. Patent No. 6,151,688 ("Wipfel"). Claims 1, 21, 41, 57, 65 and 67 are independent claims. Applicants respectfully request that the Examiner reconsider the rejection for at least the reasons stated below.

Independent Claims 1, 21, and 57

Gillett is directed towards a communication method and apparatus for write-only networks. *(See e.g. Abstract.)* More specifically, Gillett describes a multi-node computer network for parallel computing. Each node has local and shared memory, which can be used in the event of a transmission failure between nodes to maintain accuracy and coherency. A central hub is utilized in the transmission of data to minimize error transmissions. *(See col. 6, lines 33-45.)* As

admitted by the Examiner, Gillett fails to disclose, teach or suggest a cluster manager configured to determine performance similarities for a plurality of connections and configured to group the plurality of connections into performance clusters based on the determined performance similarities.

Because Gillett fails to disclose each and every limitation of the claimed subject matter, the Examiner relies on Wipfel to fulfill the deficiencies of Gillett. Applicants submit that Wipfel fails to fulfill the deficiencies of Gillett as Wipfel does not disclose, teach or suggest the following claim limitation of independent claims 1, 21, and 57:

> "a cluster manager configured to determine performance similarities for a plurality of connections and group the plurality of connections into performance clusters based on the determined performance similarities"

Wipfel is directed towards methods and systems for managing resources in a computing cluster when nodes fail. *(See e.g. Abstract.)* More specifically, Wipfel describes resource management methods and systems for computer clusters utilizing remote memory probes, communication through a shared disk, and resource allocation featuring minimal locking such that individual nodes of computer clusters are utilized in an efficient manner.. *(See col. 27, lines 44-53.)*

The Examiner appears to argue a node with software including a typical operating system such as Windows NT or UNIX and specialized interrupt handlers that manage a pool of sharable resources in accordance with the Wipfel invention discloses, teaches or suggests the claimed cluster manager configured to determine performance similarities for a plurality of connections. Applicants respectfully disagree. There is no disclosure, teaching or suggestion that any operating system compares or determines similarities of nodes, based on performance or other criteria. Indeed, it is outside the scope of an operating system to handle the high-level functionality required to determine such similarities. In addition, there is absolutely no disclosure, teaching or suggestion that the Wipfel invention compares the performance capabilities of different nodes; in fact when distributing tasks the resources of nodes are allocated independently based only on whether a node has requested a task and whether a task is appropriate to distribute.*(See Figure 7, Figure 8, col. 15, lines 21-49, and col. 16, lines 49-61.)* At no time are similarities between nodes drawn, and at no time does Wipfel disclose, teach or

suggest doing so. At best, Wipfel discloses software that manages a cluster *after* the cluster has manually been created, but does not disclose, teach or suggest cluster system software that actively groups nodes into clusters based on performance similarities.

In addition to failing to disclose the claimed cluster manager, Wipfel also teaches away from grouping nodes based on similarities, as it extols the virtues of having highly heterogeneous nodes with few similarities, especially with respect to performance. *(See col. 2, lines 22-36.)* In summary, there is no disclosure, teaching or suggestion in Wipfel of a cluster manager configured to group a plurality of connections as recited in claims 1, 21, and 57. Furthermore, there is no disclosure, teaching or suggestion in Wipfel for that group to be based on determined performance similarities as recited in claims 1, 21, and 57.

Because Wipfel fails to disclose or suggest the claimed cluster manager, one would not have been (and could not have been) motivated to combine the plurality of connection interfaces, as disclosed in Gillett, with the method and systems for managing computer cluster resources of Wipfel, to produce the claimed subject matter. Wipfel fails to disclose the above identified recitations with respect to independent claims 1, 21, and 57, and as such the combination of Gillett and Wipfel cannot reasonably be said to render obvious the claimed subject matter of claims 1, 21, and 57 or the claims that depend therefrom.

In view of the foregoing, the Examiner is respectfully requested to withdraw the § 103(a) rejection from independent claims 1, 21, and 57 and the claims that depend therefrom.

Independent Claim 41

Applicants submit that Gillett and Wipfel fail to disclose, teach or suggest at least the following limitations in independent claim 41:

> "determining the performance similarities for a plurality of connections; and
> grouping the plurality of connections into performance clusters based on the determined performance similarities."

This limitation is similar to the limitation recited in independent claims 1, 21, and 57 and for the reasons argued above, which are fully incorporated herein, Applicants again submit that the combination of Gillett and Wipfel fails to render obvious the claimed subject matter.

With respect to Gillett, the Examiner admits that Gillett fails to disclose, teach or suggest "grouping plurality of connections in performance clusters based on determined performance similarities." Thus, the Examiner must rely of Wipfel to fulfill the noted deficiency.

Applicants however also disagree with the Examiner's characterization of Gillett as disclosing determining performance capabilities as claimed by independent claim 41. Specifically, the Examiner appears to argue that Gillett discloses the claimed limitation of determining the performance similarities for a plurality of connections because the embodiment described with respect to FIG. 7A (in Gillett) have improved performance over the embodiment found in FIG. 1. Applicants respectfully disagree. It is not a proper characterization of Gillett to conclude, since the performance of two differing embodiments of the Gillett invention can be compared, that the claimed subject matter of determining the performance similarities of a plurality of connections has been disclosed, taught or suggested. The Gillett disclosure was simply meant to be illustrative of the advantages and disadvantages of different embodiments of the Gillett invention.

The Examiner's argument further fails because Gillett does not disclose determining the performance similarities for a plurality of connections but rather discloses an optimal arrangement for the triggering of network writes off the local system bus. (*See col. 7, lines 35-39.)* Even assuming, *in arguendo,* that Gillett discloses determining performance similarities, Gillett's comparison would be of two wholly incompatible types of computing apparatus and networks. Because the two embodiments disclosed in FIG. 1 and FIG. 7A are mutually exclusive, Gillett teach away from determining the performance similarities for a plurality of connections that necessarily are a part of the same compatible and operative network. In light of the above, Applicants respectfully submit that the Examiner's classification of Gillett as being configured to determine performance similarities is misplaced.

The Examiner therefore relies on Wipfel to fulfill the deficiencies of Gillett. As noted above, Wipfel actually teaches away from grouping nodes based on similarities, as it extols the virtues of having highly heterogeneous nodes with few similarities, especially with respect to performance *(See col. 2, lines 22-36.)* In summary, there is no disclosure, teaching or suggestion in Wipfel of grouping plurality of connections in performance clusters based on determined performance similarities as recited in claim 41. Without at least such a suggestion, one would

not have been (and could not have been) motivated to combine the plurality of connection interfaces, as disclosed in Gillett, with the method and systems for managing computer cluster resources of Wipfel, to produce the claimed subject matter. As such, the combination of Gillett and Wipfel cannot possibly obviate independent claim 41 and the Examiner is therefore respectfully requested to withdraw the § 103(a) rejection from independent claim 41 and the claims that depend therefrom.

Independent Claims 65 and 67

Applicants note that with respect to independent claims 1, 21, and 57, the Examiner admitted that Gillett fails to disclose "a cluster manager configured to determine performance similarities." However, with respect to independent claims 65 and 67, the Examiner now argues that Gillett does disclose the claimed "cluster manager". Applicants believe, for at least the reasons stated above, that the Examiner's initial analysis of Gillett (with respect to independent claims 1, 21, and 57) was correct and that Gillett does not disclose a cluster manager.

Despite the above discrepancy, the Examiner admits that Gillett fails to disclose at least the following recitation of independent claims 65 and 67:

> "a cluster manager configured to distinguish, from a set of connections, a subset of connections having similar performance capabilities and configured to group the subset of connections together in a performance cluster."

As noted above, Wipfel fails to fulfill the deficiencies of Gillett. Specifically, Wipfel teaches away from grouping nodes based on similarities, as it extols the virtues of having highly heterogeneous nodes with few similarities, especially with respect to performance *(See col. 2, lines 22-36.)* In summary, there is no disclosure, teaching or suggestion in Wipfel of a cluster manager configured to distinguish a subset of connections having similar performance capabilities as claimed in independent claims 65 and 67. Without at least such a disclosure, one would not have been (and could not have been) motivated to combine the plurality of connection interfaces, as disclosed in Gillett, with the method and systems for managing computer cluster resources of Wipfel, to produce the claimed subject matter. Wipfel fails to disclose the above identified recitations with respect to independent claims 1, 21, and 57, and as such the combination of Gillett and Wipfel cannot reasonably be said to render obvious the claimed subject matter.

In view of the foregoing, the Examiner is respectfully requested to withdraw the § 103(a) rejection from independent claims 65 and 67 and the claims that depend therefrom.

Dependant Claims 17, 18, 37, 38, 53, and 54

Dependant claims 17, 18, 37, 38, 53, and 54 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillett and Wipfel as applied to claims 1, and further in view of Kremien, U.S. Publication No. 2001/0034752 ("Kremien"). Kremien teaches a load balancing system and method for resource management in a computer system. *(See e.g. Abstract.)* However, Kremien does not disclose, teach or suggest the claim limitations of independent claims 1, 21, 57, 65, and 67. Notably, Kremien does not disclose, teach, or suggest a cluster manager configured to group the plurality of connections into performance clusters based on determined performance similarities. In particular, there is no cluster manager disclosed in Kremien, as each node executes the management software. *(See Abstract.)* Furthermore, Kremien does absolutely no grouping of connections into clusters, based on performance similarities or otherwise. Thus, Kremien fails to disclose at least the above identified recitations with respect to independent claims 1, 21, 57, 65 and 67, and as such the combination of Gillett, Wipfel and Kremien cannot reasonably be said to render obvious the claimed subject matter of claims 1, 21, 57, 65, and 67 or the claims that depend therefrom.

In addition, as Kremien does not disclose, teach, or suggest the method of grouping connections into clusters, based on performance similarities or otherwise, Kremien fails to disclose, teach or suggest at least the claimed grouping the plurality of connections into performance clusters based on the determined performance similarities of independent claim 41. As such, the combination of Gillett, Wipfel and Kremien cannot reasonably be said to render obvious the claimed subject matter of claim 41 or the claims that depend therefrom.

Dependant Claims 19, 39, and 55

Dependant claims 19, 39, and 55 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillett, Wipfel and Kremien as applied to claims 1, 17, 21, 37, 41, 53, and 54, and further in view of Quarterman et al, U.S. Publication No. 2002/0177910 ("Quarterman"). Quarterman discloses methods for measuring the performance of computer networks. *(See e.g. Abstract.)* However, Quarterman does not disclose, teach or suggest the claim limitations of independent claims 1, 21, 57, 65, and 67. Quarterman does not disclose, teach, or suggest a

cluster manager configured to group the plurality of connections into performance clusters based on determined performance similarities. There is no cluster manager of any kind in Quarterman, Quarterman does group nodes based on performance characteristics, but this grouping is passive and for measurement and statistical purposes only; no active grouping to affect performance of the nodes or a source device is done. In addition, since the groupings are for measurement purposes, it is to be expected that a node would be a member of more than one group depending on the measurement taken. Again, this is quite outside the bounds of the present invention. Thus, to characterize Quarterman as disclosing grouping nodes based on performance characteristics would be a misrepresentation of Quarterman with respect to the present invention. Thus, Quarterman fails to disclose at least the above identified recitations with respect to independent claims 1, 21, 57, 65, and 67, and as such the combination of Gillett, Wipfel and Quarterman cannot reasonably be said to render obvious the claimed subject matter of claims 1, 21, 57, 65, and 67 or the claims that depend therefrom.

As discussed above, it is a misrepresentation of Quarterman to claim that is discloses, teaches, or suggests grouping connections into clusters, based on performance similarities or otherwise, as claimed in independent claim 41. As such, the combination of Gillett, Wipfel and Quarterman cannot reasonably be said to render obvious the claimed subject matter of claim 41 or the claims that depend therefrom.

Dependant Claims 20, 40 and 56

Dependant claims 20, 40, and 56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillett and Wipfel as applied to claims 1, 21 and 41, and further in view of Hendricks et al, U.S. Patent No. 6,463,585 ("Hendricks"). Hendricks discloses methods distributing targeted advertising to television users. *(See e.g. Abstract.)* However, Hendricks does not disclose, teach or suggest the claim limitations of independent claims 1, 21, 57, 65, and 67. Hendricks does not disclose, teach, or suggest a cluster manager configured to group the plurality of connections into performance clusters based on determined performance similarities. In particular, the performance similarities determined by Hendricks are not analogous to the performance similarities determined by the present invention. Network performance is in no way related to the performance of a television show in terms of popularity or target audience. Thus, Hendricks fails to disclose at least the above identified recitations with respect to independent claims 1, 21, 57, 65, and 67, and as such the combination of Gillett, Wipfel and Hendricks

cannot reasonably be said to render obvious the claimed subject matter of claims 1, 21, 57, 65, and 67 or the claims that depend therefrom.

Furthermore, as Hendricks is not analogous prior art with respect to grouping nodes based on performance similarities, Hendricks fails to disclose, teach or suggest at least the claimed grouping the plurality of connections into performance clusters based on the determined performance similarities of independent claim 41. As such, the combination of Gillett, Wipfel and Quarterman cannot reasonably be said to render obvious the claimed subject matter of claim 41 or the claims that depend therefrom.

Dependant Claims 61 and 62

Dependant claims 61 and 62 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillett and Wipfel as applied to claim 57, and further in view of VanHuben et al, U.S. Patent No. 6,038,651 ("VanHuben"). VanHuben discloses a remote resource management system for a symmetrical multiprocessing system. *(See e.g. Abstract.)* VanHuben does not disclose, teach or suggest the claim limitations of independent claims 1, 21, 57, 65, and 67. VanHuben does not disclose, teach, or suggest a cluster manager configured to group the plurality of connections into performance clusters based on determined performance similarities. VanHuben does no grouping of nodes into clusters; the multiprocessor system disclosed necessarily has its processors grouped prior to operation of the system. Furthermore, VanHuben does not determine performance similarities of nodes, but rather uses a fairly straightforward priority queue when distributing tasks to specific nodes. *(See col. 5, lines 39-57.)* Thus, VanHuben fails to disclose at least the above identified recitations with respect to independent claims 1, 21, 57, 65, and 67, and as such the combination of Gillett, Wipfel and VanHuben cannot reasonably be said to render obvious the claimed subject matter of claims 1, 21, 57, 65, and 67 or the claims that depend therefrom.

Furthermore, as VanHuben does not disclose, teach, or suggest grouping connections into clusters, based on performance similarities or otherwise, VanHuben fails to disclose, teach or suggest at least the claimed grouping the plurality of connections into performance clusters based on the determined performance similarities of independent claim 41. As such, the combination of Gillett, Wipfel and VanHuben cannot reasonably be said to render obvious the claimed subject matter of claim 41 or the claims that depend therefrom.

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include changes to Fig.1 and 4. These sheets, which include original Figs. 1-4, replace the original sheets including Figs. 1 and 4.

Attachment: Replacement sheets

Annotated Sheet Showing Changes

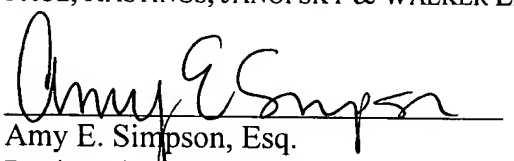
CONCLUSION

In view of the above, it is respectfully submitted that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

Applicant is concurrently filing herewith a Petition for a Three-Month Extension of Time, along with the requisite fee. In the event that a variance exists between the amount tendered and that required by the U.S. Patent and Trademark Office requires to enter and consider this Reply, or to prevent abandonment of the present application, please charge or credit such variance to the undersigned's Deposit Account No. 50-2613 (Order No. 45098.00014.UTL1.P1068).

Respectfully submitted,

PAUL, HASTINGS, JANOFSKY & WALKER LLP

February 22, 2006 By: 

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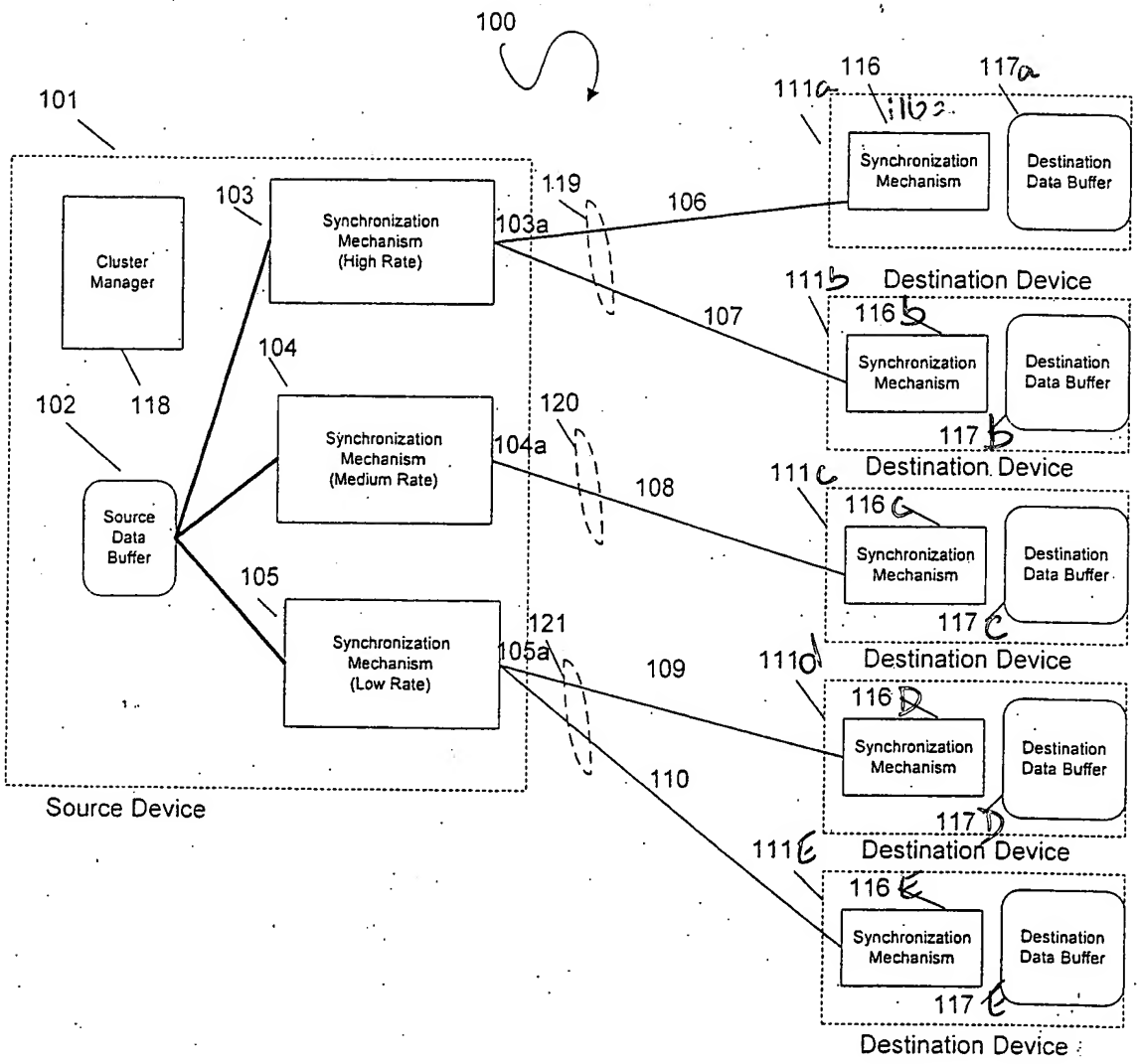

Figure 1

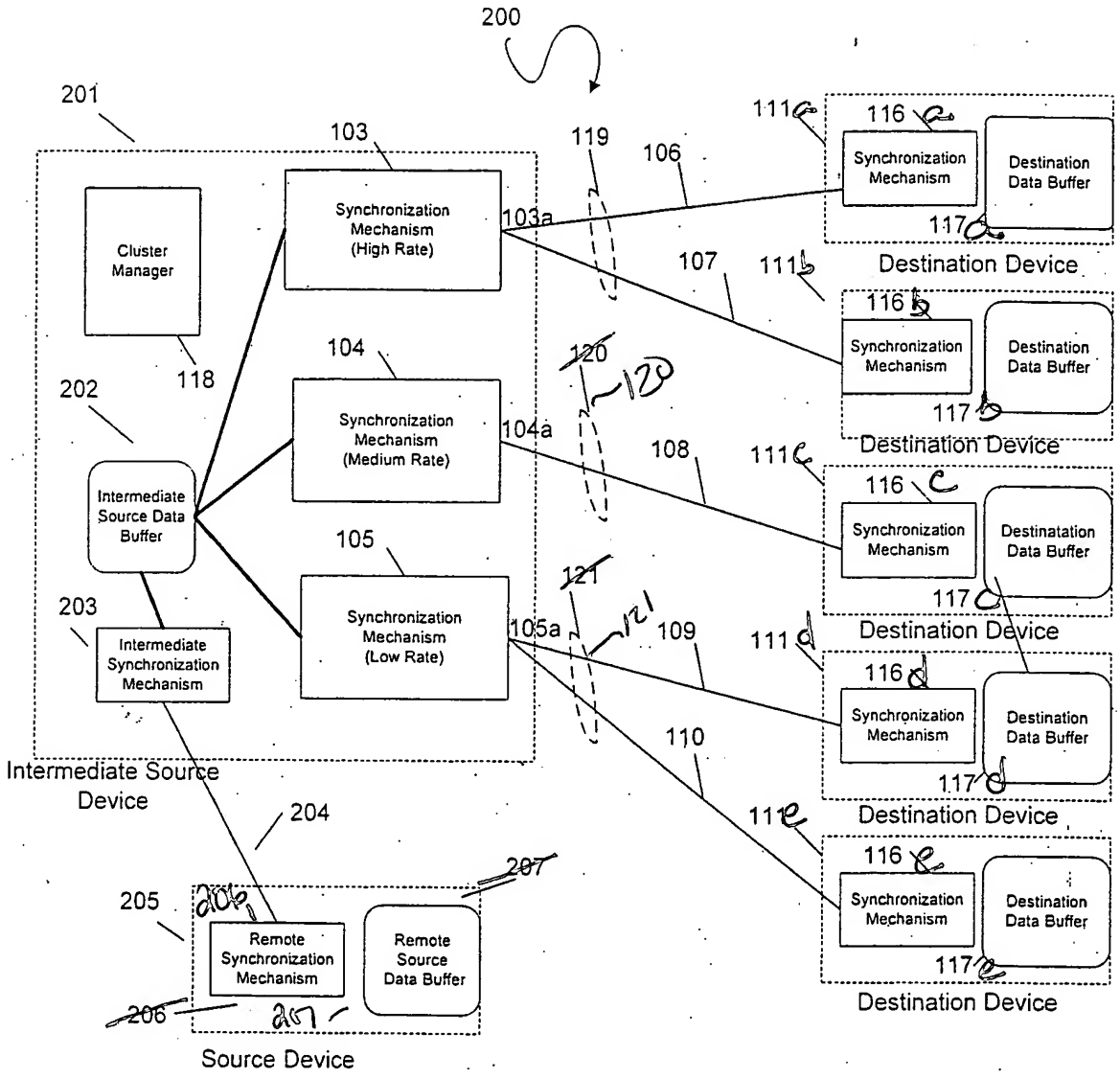
200
201
103
Synchronization Mechanism (High Rate)
103a
119
106
111a
116
Synchronization Mechanism
Destination Data Buffer
117
Destination Device
Cluster Manager
118
107
111b
116
Synchronization Mechanism
Destination Data Buffer
117
Destination Device
104
Synchronization Mechanism (Medium Rate)
104a
120
202
Intermediate Source Data Buffer
108
111c
116
Synchronization Mechanism
Destinatation Data Buffer
117
Destination Device
105
Synchronization Mechanism (Low Rate)
105a
121
203
Intermediate Synchronization Mechanism
109
111d
116
Synchronization Mechanism
Destination Data Buffer
117
Destination Device
Intermediate Source Device
204
110
111e
116
Synchronization Mechanism
Destination Data Buffer
117
Destination Device
205
207
Remote Synchronization Mechanism
Remote Source Data Buffer
206
Source Device

Figure 4